

We Claim as Our Invention:

A system for suppressing instabilities in an optical wavelength division multiplex ring network, the system comprising:

5 a first filter device inserted in an optical conductor of the ring network, the
first filter device having a low stop-band attenuation only for individual optical
signals which are in transmission channels, and further having a high-band attenuation
outside the transmission channels in an entire wavelength range critical for the
instabilities; and

10 a second filter which combines the individual optical signals with, if
determined to be appropriate, launched optical signals so as to form one wavelength
division multiplex signal.

2. A system for suppressing instabilities in an optical wavelength division
multiplex ring network as claimed in claim 1, wherein both the first filter device and
15 the second filter device are incorporated into a single module, an output of the first
filter device being connected to an input of the second filter device.

3. A system for suppressing instabilities in an optical wavelength division
multiplex ring network as claimed in claim 1, wherein at least the first filter device
20 has one of a BULK filter structure and an AWG filter structure.

4. A system for suppressing instabilities in an optical wavelength division
multiplex ring network as claimed in claim 1, wherein the first filter device is a

wavelength division demultiplexer, and the second filter device is a wavelength division multiplexer.

5. A system for suppressing instabilities in an optical wavelength division multiplex ring network as claimed in claim 4, wherein the system is provided in a network node of the ring network.

6. A system for suppressing instabilities in an optical wavelength division multiplex ring network as claimed in claim 4, wherein the system is provided in a network node of the ring network and is designed as an add-drop device.

7. A system for suppressing instabilities in an optical wavelength division multiplex ring network as claimed in claim 1, wherein the entire wavelength range includes at least the wavelength of 1.53 μm to 1.565 μm .